

Cardiac Arrest: Ventricular Fibrillation/ Pulseless Ventricular Tachycardia

History


- Estimated down time
- Past Medical History
- Medications
- Events leading to arrest
- Renal failure / Dialysis
- DNR

Signs and Symptoms

- Unresponsive, apneic, pulseless
- Ventricular fibrillation or ventricular tachycardia on EKG

Differential

- Asystole
- Artifact / Device Failure
- Cardiac
- Endocrine / Medicine
- Drugs
- Pulmonary

 Cardiac Arrest: General Protocol

B	EMT	B
P	EMT - P	P

P Defibrillate 200 Joules

AT ANY TIME

Return of
Spontaneous
Circulation



Go to
Post Resuscitation
Protocol

After Defibrillation resume CPR without pulse check with
Continuous Chest Compressions and Ventilations
Change Compressors every 2 minutes
(Limit changes / pulses checks ≤ 5 seconds)

IV Procedure

P

IO Procedure

P

Epinephrine (1:10,000) 1 mg IV / IO
Repeat every 3 to 5 minutes
Give medications during compressions

P

Defibrillate 200 Joules

Dialysis / Renal
Failure Protocol
if indicated



Torsades de Pointes
or
Low Magnesium States
(Malnourished / Alcoholics)
or
Suspected Digitalis Toxicity

P Defibrillate 200 Joules
Magnesium Sulfate
2g IV / IO
Over 2 minutes

Resume Continuous CPR Compressions and Ventilations
Push Hard (~ 2 inches) Push Fast (~ 110 / min)
Continue CPR up to point where you are ready to
defibrillate with device already charged

P

Amiodarone 300 mg IV / IO
May repeat once in 5 minutes at 150 mg IV/IO
Give medications during compressions.

Defibrillate 200 Joules

Return of Spontaneous Circulation

Yes

Exit to
Post Resuscitation
Protocol



NO

Cardiac Arrest: Adult Asystole/
Pulseless Electrical Activity
Protocol



Complete 35 minutes of advanced life support care
for persistent VF/Pulseless VT prior to transport

 Notify Destination Hospital 

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Pearls

- **Effective CPR and prompt defibrillation are the keys to successful resuscitation; therefore, primary resuscitative efforts should be directed at high quality and continuous compressions with limited interruptions and early defibrillation when indicated.**
- **DO NOT HYPERVENTILATE! Ventilations are accomplished utilizing an adult BVM with just enough compression to achieve chest rise. Ventilate at 6 breaths per minute (once every 10 seconds) with continuous, uninterrupted compressions.**
- Non-Hypoxic Origin Cardiac Arrest is typically an arrest suspected of being primarily cardiac in origin, without concern for low oxygen reserves pre-arrest.
Hypoxic Origin Cardiac Arrest Examples: Primary respiratory arrest, CHF, COPD, Smoke Inhalation, Drowning, Hanging, etc.
- **EMS Witnessed, Non-Hypoxic Cardiac Arrest Patients with Shockable Rhythm ONLY: Delay ventilations in preference to passive oxygenation for the first 6 minutes of continuous cardiac compression.**
- If functioning appropriately, the preference is to leave the i-gel in place to limit interruptions in chest compressions. If intubation is considered, do not interrupt chest compressions to place the endotracheal tube. Frequently reassess airway placement and EtCO₂, especially after every move, and at transfer of care.
- Refer to Dialysis / Renal Failure protocol caveats when faced with a dialysis / renal failure patient experiencing cardiac arrest, ie. Use of Calcium and Sodium Bicarbonate.
- Sodium Bicarbonate, while no longer recommended as a standard cardiac arrest medication, may be consider in the dialysis / renal patient, known hyperkalemia or suspected overdose at 50 mEq IV / IO.
- Return of spontaneous circulation: Heart rate should be > 60 when initiating anti-arrhythmic infusions.
- **Patients in persistent VF/Pulseless VT who are transported must be routed to a STEMI Receiving Center!**